Business Analytics

General Information

Number of ECTS Credits

3

Abbreviation

TSM_BusAn

Version

2.12.2016

Responsible of module

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Language

	Lausanne		Bern			Zurich		
Instruction	☐ E	☐ F	☐ D	☐ E	☐ F	☐ D	☒ E	
Documentation	☐ E	☐ F	☐ D	☐ E	☐ F	☐ D	☒ E	
Examination	☐ E	☐ F	☐ D	☐ E	☐ F	☐ D	☒ E	

Module category

☐ Fundamental theoretical principles - FTP

☒ Technical/scientific specialization module - TSM

☐ Context module - CM

Lessons

☒ 2 lecture periods and 1 tutorial period per week

Brief course description of module objectives and content

Business Analytics (BA) is the science of analyzing enterprise data with statistical methods. The aim is to better understand market, customers, internal processes and the competitive environment, allowing for better and more informed decisions in business. As such, BA goes well beyond simply presenting data, numbers and tables, but focuses on finding new patterns, explaining the occurrence of results and forecasting future development. The essence is to find meaning in the data und successfully deploy it into the daily business life. This course will provide an overview over the principal questions, practices, methods, tools and goals in BA.

Aims, content, methods

Learning objectives and acquired competencies

The students understand the benefits that BA offers for an enterprise, i.e. they perceive the potential that quantitative analysis of business data harbors and that it is important to turn data into information. They acquire a comprehensive overview how and in which fields BA can offer added value to a company. The students are able to perform basic tasks in e.g. customer selection, segmentation, demand forecasting and maintenance planning on their own means. They recognize points of contact to other, technical modules such as Predictive Modelling and can strengthen their skills in statistical data analysis.

Contents of module with emphasis on teaching content

Throughout the course, there will be a strong focus on the process of gaining information from and making use of business data. That involves setting realistic goals, selecting suitable data, drawing unbiased conclusions, reporting facts correctly and deploying the results. This goes along with pointing out some common misconceptions and pitfalls that often repeat themselves in statistical analysis.

The meat of the course will be made up by case studies that cover BA tasks such as customer segmentation, churn analysis, customer selection, demand forecasting, point-of-sale data, customer lifetime value, dynamic pricing, planned maintenance, service science, et cetera. The use and benefits of each of these topics will be explained, methods for practically solving the analysis tasks will be presented in an accessible, non-technical manner and focus on the validity and generalizability of the results will be laid.

Teaching and learning methods

Lectures and practical work on computer with suitable BA tools.

Prerequisites, previous knowledge, entrance competencies

Basic knowledge in statistics on the level of an introductory stochastics course.

Literature

Slides and lecture notes will be available in addition to recommended book chapters.

Assessment

Certification requirements for final examinations (conditions for attestation)

No

Written module examination

Duration of exam:	120 minutes
Permissible aids:	Open book, scientific pocket calculator.